

REMARKS

This paper is filed in response to the Office Action mailed October 5, 2005.

Claims 1-16 are pending in this application. In the Office Action, claims 12-16 stand rejected under the judicially-created doctrine of double patenting over U.S. Patent No. 6,693,626 to Rosenberg (hereinafter referred to as “Rosenberg”). The drawings are objected to for allegedly failing to include a claimed element. Claims 1, 7, 8, 11 and 12-15 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 6,218,966 to Goodwin et al (hereinafter referred to as “Goodwin”). Claims 2-4 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Goodwin in view of U.S. Patent No. 6,198,206 to Saarmaa et al (hereinafter referred to as “Saarmaa”). Claims 5 and 16 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Goodwin in view of U.S. Patent No. 6,206,593 to Brenner et al (hereinafter referred to as “Brenner”). The Examiner has rejected claims 9-10 under 35 U.S.C. § 103(a) as unpatentable over Goodwin in view of US Patent No. 6,587,091 to Serpa (hereinafter referred to as “Serpa”). The Examiner has rejected claim 6 under 35 U.S.C. § 103(a) as unpatentable over Goodwin in view of US Patent Application No. 2002/0024501 A1 to Shalit (hereinafter referred to as “Shalit”).

Applicant has amended claims 1, 4, 7, 9, 10, 12, 14 and 15. Applicant has canceled claim 6. No new matter is added by these amendments and support for the amendments may be found in the specification and claims as originally filed.

Applicant respectfully traverses the rejections to the claims and the objections to the drawings and respectfully requests reconsideration of the claims in light of the amendments above and the remarks below.

Objections to the Drawings

Applicant respectfully traverses the objection to the drawings. The Office Action objected to the drawings for failing to show a “housing includes a first portion coupled to the second portion” as recited in canceled claim 6. Applicant has canceled claim 6 rendering the Examiner’s objection moot. Applicant respectfully requests the Examiner withdraw the objection to the drawings.

Claims 12-16 – Double Patenting

Claims 12-16 stand rejected under the judicially-created doctrine of obviousness-type double patenting as being unpatentable over claim 12 of U.S. Patent No. 6,693,626. Applicant will submit a terminal disclaimer once the Examiner indicates that the claims are allowable and if the double-patenting rejection is maintained.

Claims 1, 7, 8 and 11-15 – § 102(b)

The rejection claims 1, 7, 8 and 11-15 under 35 U.S.C. § 102(b) as being anticipated by Goodwin is respectfully traversed.

To anticipate a claim under 35 U.S.C. § 102(b), a reference must disclose each and every element of the claim.

Claim 1, as amended, recites, in part, “[an] actuator configured to receive a control signal responsive to a key entry on the keyboard device and output a vibrotactile force to the housing in a direction substantially perpendicular to the top surface that effects haptic feedback.” As noted by Goodwin, membrane-style keyboards do not generally require displacing a key in a vertical direction to generate a keystroke, making touch-typing difficult. The forces are generated to provide tactile resistance and response to interaction with keys on a membrane-type keyboard. *See Goodwin, Column 4, Lines 39-53.* Goodwin discloses generating forces to resist key-press movements in a vertical direction. *See Goodwin, Fig. 2; Column 4, Lines 39-53.* As such, the forces disclosed by Goodwin are transmitted to the individual keys of the keyboard and not to the housing. Thus, Goodwin does not disclose “[an] actuator configured to receive a control signal responsive to a key entry on the keyboard device and output a force in a substantially z-direction to the housing that effects haptic feedback.” As such, Goodwin does not disclose each and every element of claim 1 as amended. Therefore, Goodwin does not anticipate claim 1 as amended.

Claim 12, as amended, recites “[an] actuator configured to receive a control signal from the processor responsive to a key entry on the keyboard device and output a vibrotactile force to the housing in a direction substantially perpendicular to the top surface that effects haptic feedback.” For the same reasons that Goodwin does not

disclose each and every element of claim 1, Goodwin does not disclose each and every element of claim 12. Therefore, Goodwin does not anticipate claim 12.

Accordingly, Applicant respectfully requests the Examiner withdraw the rejection of claims 1 and 12. Because claims 7, 8 and 11 depend from and further limit claim 1, claims 7, 8 and 11 are patentable over Goodwin for at least the same reason as claim 1. Further, because claims 13-15 depend from and further limit claim 12, claims 13-15 are patentable over Goodwin for at least the same reason as claim 12. Therefore, Applicant respectfully requests the Examiner withdraw the rejections to claims 7, 8, 11 and 13-15.

Claims 2-4 – § 103(a)

The rejection of claims 2-4 under 35 U.S.C. § 103(a) as unpatentable over Goodwin in view of Saarmaa is respectfully traversed.

To sustain a rejection of a claim under 35 U.S.C. § 103(a), the combination of references must teach or suggest each and every element of the claim. *See M.P.E.P. § 2142.*

Because the combination of Goodwin and Saarmaa does not disclose “[an] actuator configured to receive a control signal responsive to a key entry on the keyboard device and output a vibrotactile force to the housing in a direction substantially perpendicular to the top surface that effects haptic feedback” as recited in claim 1, the combined references do not disclose each and every element of claim 1. Therefore, claim 1 is patentable over the combined references. As pointed out above, Goodwin does not disclose “[an] actuator configured to receive a control signal responsive to a key entry on the keyboard device and output a vibrotactile force to the housing in a direction substantially perpendicular to the top surface that effects haptic feedback.”

Further, Saarmaa fails to remedy the deficiency of Goodwin. Saarmaa discusses an assembly that may be used to generate vibrational effects. Saarmaa describes vibration in general terms, including generating a vibrational response. Saarmaa does not disclose “[an] actuator configured to receive a control signal responsive to a key entry on the keyboard device and output a vibrotactile force to the housing in a direction substantially perpendicular to the top surface that effects haptic feedback” as recited in

claim 1. Because the combination of Saarmaa and Goodwin fails to disclose all the elements of claim 1, the combination fails to disclose each and every element of claims 2-4, which depend from and further limit claim 1. Therefore, claims 2-4 are patentable over the combined references for at least the same reason as claim 1.

Applicant respectfully requests the Examiner withdraw the rejection of claims 2-4.

Claims 5 and 16 – § 103(a)

The rejection of claims 5 and 16 under 35 U.S.C. § 103(a) as unpatentable over Goodwin in view of Brenner is respectfully traversed.

To sustain a rejection of a claim under 35 U.S.C. § 103(a), the combination of references must teach or suggest each and every element of the claim. *See M.P.E.P. § 2143.* Further, there must be a motivation or suggestion to combine the references within the prior art references. *See M.P.E.P. § 2143.*

The combined references fail to teach or suggest each and every element of claims 5 and 16. As was pointed out above in reference to claims 1, 7, 8 and 11-15, Goodwin fails to teach each and every element of claims 1 and 12. Brenner fails to cure this deficiency. As stated in the Office Action, Brenner teaches “compliant element[s] coupled to the housing and adapted to support the housing on the surface.” Brenner does not teach outputting forces to the housing of a keyboard. Therefore, like Goodwin, Brenner does not teach “[an] actuator configured to receive a control signal responsive to a key entry on the keyboard device and output a vibrotactile force to the housing in a direction substantially perpendicular to the top surface that effects haptic feedback.” As such, the combined references fail to teach or suggest each and every element of claim 1. Therefore, claim 1 is patentable over the combination of Goodwin and Brenner for at least this reason.

Similar to claim 1, claim 12 recites “[an] actuator configured to receive a control signal from the processor responsive to a key entry on the keyboard device and output a vibrotactile force to the housing in a direction substantially perpendicular to the top surface that effects haptic feedback.” As pointed out with respect to claim 1 above,

neither Goodwin nor Brenner disclose this element, and thus the combination of references fails to disclose each and every element of claim 12. Therefore, claim 12 is patentable over the combination of Goodwin and Brenner for at least this reason.

Because claim 5 depends from and further limits claim 1, claim 5 is patentable over the combination of Goodwin and Brenner for at least the same reason as claim 1. Further, because claim 16 depends from and further limits claim 12, claim 16 is patentable over the combination of Goodwin and Brenner for at least the same reason as claim 12. Therefore, Applicant respectfully requests the Examiner withdraw the rejection to claims 5 and 16.

Claims 9 and 10 – § 103(a)

The rejection of claims 9 and 10 under 35 U.S.C. § 103(a) as unpatentable over Goodwin in view of Serpa is respectfully traversed.

To sustain a rejection of a claim under 35 U.S.C. § 103(a), the combination of references must teach or suggest each and every element of the claim. *See* M.P.E.P. § 2142.

Because the combination of Goodwin and Serpa does not disclose “[an] actuator configured to receive a control signal responsive to a key entry on the keyboard device and output a vibrotactile force to the housing in a direction substantially perpendicular to the top surface that effects haptic feedback” as recited in claim 1, the combined references do not disclose each and every element of claim 1. And because claims 9 and 10 depend from and further limit claim 1, the combined references do not disclose each and every element of claims 9 and 10. As pointed out above with respect to claims 1, Goodwin does not disclose “[an] actuator configured to receive a control signal responsive to a key entry on the keyboard device and output a vibrotactile force to the housing in a direction substantially perpendicular to the top surface that effects haptic feedback.”

Serpa does not remedy the deficiencies of Goodwin. Serpa discloses generating a non-directional vibrational effect by rotating a non-planar surface around an axis. *See* Serpa, Column 2; Lines 28-33. Further, Serpa expressly teaches away from generating

directional forces. *See* Serpa, Column 1, Lines 48-59 (noting that other methods of generating vibrational forces can cause unintentional repositioning of the mouse and unwanted overlap of multiple vibrational events). Therefore, Serpa does not disclose “[an] actuator configured to receive a control signal responsive to a key entry on the keyboard device and output a vibrotactile force to the housing in a direction substantially perpendicular to the top surface that effects haptic feedback.” As such, the combination of Goodwin and Serpa does not disclose each and every element of claim 1. Because claims 9 and 10 depend from and further limit claim 1, the combined references fail to disclose each and every element of claims 9 and 10 for at least the same reason as claim 1. Therefore, claims 9 and 10 are patentable over the combined references.

Applicant respectfully requests the Examiner withdraw the rejection to claims 9 and 10.

Claim 6 – § 103(a)

The rejection of claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Goodwin in view of Shalit is respectfully traversed.

Applicant has canceled claim 6 thereby rendering the Examiner’s rejection moot. Applicant respectfully requests the Examiner withdraw the rejection to claim 6.

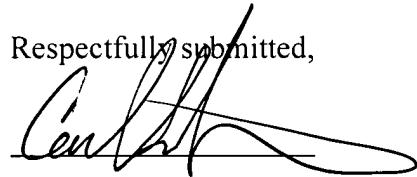
CONCLUSION

Applicant respectfully asserts that in view of the amendments and remarks above, all pending claims are allowable and Applicant respectfully requests the allowance of all claims.

Should the Examiner have any comments, questions, or suggestions of a nature necessary to expedite the prosecution of the application, or to place the case in condition for allowance, the Examiner is courteously requested to telephone the undersigned at the number listed below.

Date: 2/6/2006

Respectfully submitted,



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